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     (FILE 'HOME' ENTERED AT 10:43:41 ON 10 JUL 2003)

     FILE 'CAPLUS' ENTERED AT 10:43:47 ON 10 JUL 2003
L1          1617 S QUARTZ (3W) (FILM? OR LAYER?)
L2          7551 S (GAN OR (GALLIUM (2W) NITRIDE)) (3W) (FILM? OR LAYER?)
L3             2 S L1 (P) L2
L4           117 S EPITAX? (3W) QUARTZ
L5             2 S L4 AND (GAN OR ZNO)
L6             1 S L4 AND BUFFER

     FILE 'STNGUIDE' ENTERED AT 10:48:12 ON 10 JUL 2003

     FILE 'CAPLUS' ENTERED AT 10:49:08 ON 10 JUL 2003

     FILE 'REGISTRY' ENTERED AT 10:49:20 ON 10 JUL 2003
L7            92 S GAN
L8           372 S ZNO
L9             0 S L4 AND (L7 OR L8)
L10            0 S L1 AND (L7 OR L8)
L11            0 S L1 AND (GAN OR ZNO)
L12            0 S L1 AND (BUFFER)
L13            0 S (L1 OR L4) AND L2
L14        21540 S (ZNO OR ZINC (2W) OXIDE)
L15            0 S (L1 OR L4) AND L14
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ANSWER 29 OF 33 CAPLUS COPYRIGHT 2003 ACS
AN 1976:534034 CAPLUS
DN 85:134034
TI Improvement of diffraction efficiency in surface-acoustic-optic devices by means of multilayered structure
AU Kushibiki, J.; Chubachi, N.; Shibayama, K.
CS Res. Inst. Electr. Commun., Tohoku Univ., Sendai, Japan
SO Applied Physics Letters (1976), 29(6), 333-5
CODEN: APPLAB; ISSN: 0003-6951
DT Journal
LA English
CC 73-8 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB A strain-controlling film to change acoustic strain distributions in the interaction region between acoustic surface waves and optical guided waves was introduced to improve the Bragg-diffraction efficiency in surface-acousticoptic devices. An improvement of .apprx.2 orders of magnitude was achieved in the efficiency of TM0-TM0 diffraction at an acoustic frequency of 130 MHz in a 2.0-.mu.m ZnO-film optical waveguide with a strain-controlling film of a 1.5-.mu.m-thick fused-**quartz film**, as predicted by the theory.
ST diffraction efficiency surface acousticooptical device; zinc oxide waveguide acoustic diffraction
IT Optical diffraction
(Bragg, in surface wave-optical guided wave interactions)
IT Sound and Ultrasound
(diffraction of, in zinc oxide film waveguides)
IT Opticoacoustic effect
(surface devices, diffraction efficiency improvement in multilayered structure-type)
IT Waveguides
(zinc oxide film optical, diffraction at acoustic frequencies in)
IT 7631-86-9, vitreous
RL: USES (Uses)
(strain-controlling films of, for diffraction efficiency enhancement in surface acoustic-optical devices)
IT **1314-13-2**, uses and miscellaneous
RL: USES (Uses)
(waveguides from films of, diffraction efficiency in surface acoustic-optical devices contg.)

L9 ANSWER 27 OF 33 CAPLUS COPYRIGHT 2003 ACS
AN 1981:434052 CAPLUS
DN 95:34052
TI The gallium arsenide SAW diode storage correlator
AU Loh, K. W.; Schroder, D. K.; Clarke, R. C.
CS Westinghouse Res. Dev. Cent., Pittsburgh, PA, 15235, USA
SO Ultrasonics Symposium Proceedings (1980), 1, 98-103
CODEN: ULSPDT; ISSN: 0090-5607
DT Journal
LA English
CC 76-6 (Electric Phenomena)
Section cross-reference(s): 74
AB A monolithic GaAs SAW (surface-acoustic wave) diode storage correlator is proposed. Initial calcns. show that it has a higher efficiency, more uniform interaction, and a larger time-bandwidth product than a similar ZnO/Si device. It consists of an n on n+ GaAs substrate with p-n diodes formed by ion implantation. ZnO is deposited by magnetron sputtering in the transducer region only to increase the coupling coeff. and bandwidth. The main interaction region is free of ZnO. GaAs has a higher internal convolver efficiency than Si because of its higher mobility and lower SAW velocity. Quite precise alignment to the [011] direction on (100) oriented wafers is necessary for low-loss devices. By providing a fused **quartz film** between the ZnO and the GaAs substrate, the coupling coeff. is increased appreciably. The ion-implanted diodes have leakage currents in the nA/cm2 range, giving storage times of seconds.
ST gallium arsenide diode storage correlation; surface acoustic wave storage correlation; zinc oxide gallium arsenide correlation
IT Memory devices
(acoustic, gallium arsenide diode storage correlators)
IT Acoustic devices
(correlators, surface-wave, storage, from gallium arsenide diodes)
IT 1303-00-0, properties
RL: PRP (Properties)
(surface-acoustic-wave diode storage correlators from)
IT **1314-13-2**, uses and miscellaneous
RL: USES (Uses)
(surface-acoustic-wave diode storage correlators from gallium arsenide and)